



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/009,294	01/20/1998	RANDELL L. MILLS	911319	7247

7590 01/07/2005

FARKAS & MANELLI, PLLC  
2000 M STREET, N.W.  
7TH FLOOR  
WASHINGTON, DC 200363307

EXAMINER

KALAFUT, STEPHEN J

ART UNIT	PAPER NUMBER
----------	--------------

1745

DATE MAILED: 01/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application N .

09/009,294

Applicant(s)

MILLS, RANDELL L.

Examiner

Stephen J. Kalafut

Art Unit

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 December 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-300 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-300 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 10 December 2003.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

Art Unit: 1745

Claims 1-300, for reasons of record, are rejected under 35 U.S.C. 101 because the disclosed invention is inoperative and therefore lacks utility. See paper no. 27, paragraph no. 3.

Claims 1-300, for reasons of record, are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. See paper no. 27, paragraph no. 4.

Applicant's arguments filed 12/10/2003 have been fully considered but they are not persuasive.

Applicant that various observations, as shown by the papers attached to the IDS of 12/10/2003, give support for his contention that hydrogen can exist in states lower than the "ground state", where the electron of the hydrogen has a principle quantum number which is fractional, rather than an integer. The attachments have been noted, but are not considered persuasive, for the following reasons:

- 1) They have not been peer reviewed, or published, but only submitted, so they do not (yet) have the credibility that peer reviewed articles have. To this category belong attachments 53, 55, 58, 60, 62, 65, 68, 70-82, 84-87, 89, 91, 92, 94 -98 and 100.
- 2) They recite only the theory behind applicant's invention, and while referring to other articles (mostly by applicant), do not contain data themselves. To this category belong attachments 58, 80 and 94.

Art Unit: 1745

3) They do not deal with the “hydrino”, but other subject matter, such as electrons in superfluid helium, plasmadynamic cells, or spectral data for. state above  $n=1$ , and thus, even if valid, do not pertain to the present invention. To this category belong attachments 53, 56, 59 and 66.

4) They contain data which cannot be accounted for by to applicant’s theory. Applicant takes the known formula for energy states for a hydrogen atom,  $E = -13.6 / n^2$  eV, where  $n$  is the principal quantum number, and for this number uses fractions, where  $n = 1/p$ , where  $p$  is an integer, and  $E$  is the binding energy of the electron. Thus, the formula becomes  $E = -13.6 / (1/p)^2$  eV. When  $p=1$ , the hydrogen is in its “ground state”. Then  $p$  is 2 or more, hydrogen is allegedly in an energy state below the “ground state”, such a hydrogen atom being called a “hydrino”. By setting  $p$  equal to the integers, the predicted energy values would be -13.6 (1) eV, -13.6 (4) eV, -13.6 (9) eV, -13.6 (16) eV and -13.6 (25) eV. Applicant expresses these values in terms of a variable called  $q$ , so that for these five energy levels,  $q$  equals 1, 4, 9, 16 and 25. The differences between on level, corresponding to a given value of  $p$ , and the next level, may be expressed as  $q$  equaling 3, 5, 7 and 9. Higher values of  $p$  would lead to further higher odd values of  $q$  (11, 13, etc.). The differences between two energy levels, corresponding to a difference in  $p$  of 2, may be expressed as  $q$  equaling 8, 12 and 16. A value 4 would be possible, going from  $p$  being zero, which would represent an unbound electron ( $n = \text{infinity}$ ), to  $p$  being 2. Thus, applicant’s formula predicts emissions of energy corresponding to values of  $q$  equaling 1, 3, 4, 5, 7, 8, 9, 11, 12, 13, 15 and 16. Applicant’s data, however, shows  $q$  equaling 1, 2, 3, 4, 6, 7, 8, 9 or 11. Looking at theoretical values of  $q$  up to 11, the data shows  $q$  equaling 2 and 6, which are precluded by applicant’s formula, while omitting the predicted value of 5. It is noted that applicant makes numerous references to  $q$  equaling 2 (corresponding to a value of 27.2 eV), a

Art Unit: 1745

value which nowhere fits into his formula. To this category belong attachments 50, 63, 70, 71, 73, 75, 76, 78, 79, 81, 86, 87, 90, 92 and 98.

5) They speculate hydrino formation as an explanation for experimental data unrelated to and not necessarily caused by hydrinos, such as Balmer line broadening, calorimetric data, or unfounded “indications” of chemical bonding. See the attached appendix, page 5, for alternate explanations consistent with conventional science. To this category belong attachments 51, 52, 54, 55, 57, 60-62, 64, 65, 68, 69, 72, 74, 77, 82, 84, 89, 91, 95-97 and 100.

6) They are unrelated to the scientific merits of the present invention, and only generally relate to court cases, or to news stories about the PTO and applicant’s related inventions. To this category belong the un-numbered attached to applicant’s response of 12/10/2003.

7) They have not been found. To this category belong attachments 83, 88, 93 and 99.

Since all of the “evidence” presented in attachments 50-101 belongs to at least one of the categories (1) to (8) above, they are all deemed incredible, and hence, invalid as experimental proof for the existence of the hypothetical hydrino, or for any method of isolating, creating or extracting energy from them.

Further indication that applicant's theory is flawed is provided in the attached Appendix, starting at the bottom of page 5. Applicant, in his book, The Grand Unified Theory of Classical Quantum Mechanics, has misunderstood that all stationary atomic states are non-radiative, why excited state radiate while the ground state does not, the fundamentals of quantum theory, Haus's non-radiative condition, the distinction between the quantum mechanics eigenfunction and wave function, the uncertainty principle, the concept of spin (which is a property of an electron per se,

Art Unit: 1745

and not of its motion around the nucleus), the hydrogen electron wave function, and relativistic length contraction (also called Lorentz contraction).

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen J. Kalafut whose telephone number is 571-272-1286. The examiner can normally be reached on Mon-Fri 8:00 am-4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 1745

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

sjk



STEPHEN KALAFUT  
PRIMARY EXAMINER  
GROUP  
1700